

CLAIMS:

1) A gas laser device having a repetition rate of 4 kHz or more comprising:
5 a laser chamber having laser gas filled therein;
a pair of main discharge electrodes oppositely arranged in the laser chamber and spaced apart by a predetermined distance;
a cross-flow fan for circulating the laser gas within the laser chamber at least between the main discharge electrodes; and
10 a bearing structure for rotatably supporting the cross-flow fan, wherein
a diameter of the cross-flow fan is 150 mm or less and a peripheral speed thereof is 25.0 m/s or more.

15 2) The gas laser device according to claim 1, wherein
the peripheral speed of said cross-flow fan is 27.0 m/s or more.

20 3) The gas laser device according to claim 1, wherein
said bearing structure is a roller bearing adapted for being rotated at 4500 rpm or less.

4) The gas laser device according to claim 1, wherein
said bearing structure is a magnetic bearing adapted for being rotated at 5000 rpm or less.